WETLANDS COMPENSATION PLAN

FAP 658 (Illinois Route 29)
Section 102 (B-3, B-4)
Sangamon County
Contract No. 92377
P-96-015-90

INTRODUCTION

This document serves as the wetlands compensation plan for the wetlands impacted by the replacement of the Sangamon River and Sangamon River Overflow bridges. This plan is being prepared in accordance with the IDOT Draft Wetlands Procedures (BDE Procedure Memorandum 95-_).

PROJECT DESCRIPTION

The proposed improvement will replace the Illinois Route 29 bridges across the Sangamon River and Sangamon River overflow channel northwest of Springfield. The project is approximately 1.6 miles in length. The existing roadway consists of two 12' lanes with 8' aggregate shoulders. The proposed roadway cross section will consist of two 12' lanes with 10' concrete shoulders. The existing bridges are structurally and hydraulically inadequate.

This project received design approval on September 18, 1995. The District received biological resources clearance on September 11, 1991; cultural resources clearance on October 4, 1991; and hazardous / special waste clearance on September 23, 1994. A Wetlands Technical Report was prepared by Charles Perino of the Bureau of Design and Environment on August 4, 1995. The Army Corps of Engineers issued a Nationwide Section 404 permit for this project on November 27, 1995. The Illinois Environmental Protection Agency issued a Section 401 water quality permit on December 15, 1996.

WETLANDS IMPACTS

As described in the Wetlands Technical Report, this project will permanently impact 2.89 acres (1.17 ha.) of wetlands through filling and excavation. The impacted wetlands are primarily temporarily flooded forested or emergent classifications. Vegetation noted in the technical report includes silver maple, eastern cottonwood, white grass, panicled aster, giant ragweed, wood nettle, bur-cucumber, sandbar willow, panicled aster, beggar's ticks, black willow, and reed canary grass.

The unavoidable loss of 2.89 acres (1.17 ha.) of wetlands will be mitigated at a 1.5:1.0 ratio, requiring a mitigation area of 4.34 acres (1.75 ha.). However, an additional 0.4 acres (0.16 ha.) will be added to the mitigation for this project to compensate for a shortage incurred by a project on Illinois Route 4 (Veteran's Parkway). The total area of mitigation will be a minimum 5.0 acres (2.02 ha.). The proposed mitigation design would create a wetland of nearly 6.0 acres (2.43 ha.) in area.

WETLANDS COMPENSATION

Goals of Compensation Site

The goal of the site is to replace the impacted wetlands with 6.0 acres (2.43 ha.) of in-kind compensation. As the impacted wetlands were primarily broad-leafed deciduous wetlands and secondarily emergent wetlands, the compensation goal will be to create floodplain forest conditions. IDOT proposes to plant hydrophytic species of trees in the planned wetland and prairie vegetation on the side slopes. Please see the attached exhibits for plan and cross-sectional views of the proposed site.

Location Description

The compensation site is adjacent to the west side of the existing Illinois Route 29 roadway on the north end of the project. The site is part of a field that is currently used for agricultural row crops, primarily corn and soybeans. The field (approximately 40 acres (16 ha.)) is protected by a man-made levee.

Soils

The soil at the proposed compensation site is Sawmill Silty Clay loam, a listed hydric soil in Sangamon County. The Sawmill series is a poorly drained soil found in floodplains and is suitable for restoration of wetlands.

Hydrology

This area lies in the floodplain of the Sangamon River. As a result, the current property owner has constructed a levee around his agricultural field. Representatives of District 6 have observed that this field floods annually. Aerial photos taken of this area show ponding, especially in the southern portions of the site.

Expected hydrologic inputs will include sheetflow from the adjacent roadway and field, as the site will be lower than the remainder of the field. Rainfall and groundwater seepage will provide additional inputs. District soil borings completed in August 1995 found groundwater at elevations between 154.4 m and 154.9 m. The soil borings also found silty clay at the proposed grading elevations. The silty clay will help to maintain wet conditions by retarding drainage.

Earthwork

The elevation of the field in which the compensation site is located rises steadily from 155.75 m at the south end to 158.00 m at the north. The compensation site will be graded into two distinct areas which will be separated by an earthen berm. The berm will act as a spillway from the northern area into the southern area. The southern area will be graded to a final elevation of 155.75 m and the northern area to a final elevation of 156.75 m.

The grading will extend all along the roadway, from the levee at the south end of the project to the levee at the north end. A buffer zone of 10'-20' (3-6 m) will be left on all

sides of the compensation area. The earthen berm will be located near station 4+600 of the existing roadway. The berm will retard the chances of water flowing toward one end of the site and ponding. Side slopes will not exceed a 4:1 ratio.

Vegetation

The vegetative scheme for the site will use available species to recreate the floodplain forest conditions of the impacted wetlands. Special consideration will be given to using desirable native species. A proposed planting list follows:

Shellbark Hickory	Carya Laciniosa	FACW
River Birch	Betula Nigra	FACW
Green Ash	Fraxinus Pennsylvanica	FACW
Swamp White Oak	Quercus Bicolor	FACW+
Pin Oak	Quercus Palustris	FACW

Tree planting stock shall be five gallon size trees and will be planted in equal numbers of each species on a 20' x 20' spacing. The trees may be protected by plastic tubing to prevent disturbance by animals.

Sideslopes and bench areas will be seeded with Native Grass (IDOT Standard Specifications Class 4 seeding). Bottom areas will be planted with a modified Wetland Grass and Sedge Mixture (IDOT Standard Specifications Class 4B seeding). The modified Class 4B seeding will include Blue Joint Grass (*Calamagrostis canadensis*) and other species on the Class 4B list as available. To better ensure success, the District 6 Landscape Architect would prefer planting plugs of the species from the modified 4B mixture..A photocopy of the Class 4 and 4B seeding mixtures is attached.

Trees will be planted in the fall with the grass and sedge mixtures to be planted the following spring. This will eliminate the loss of grass and sedges that would result from soil compaction by tree planting equipment.

Performance Standards

1. Seventy-five percent (75%) survival of planted trees by the end of the monitoring period.

2. Establishment of a temporary protective cover immediately after completion of planting to prevent soil erosion.

CONSTRUCTION AND POST-CONSTRUCTION

Construction

For the purpose of monitoring, IDOT will prepare and make available as-built plans of the proposed compensation site. The as-built plans will include information on the actual species planted and the topography following completion of earth work. This information is important for monitoring and documenting success or failure of the wetland in attaining its goals.

Unforeseen Construction Problems

If the Resident Engineer encounters any unforeseen difficulties during construction operations, he or she will contact the District Environmental Unit for further guidance. The District environmental staff will coordinate as necessary with the Environment Section of the Bureau of Design and Environment.

Monitoring

The Illinois Natural History Survey (INHS) will monitor the planned wetland for five years to assess the attainment of goals and performance standards and will offer measures for remediation, if necessary.

Management

IDOT will manage the site for development as a floodplain forest. This will include spraying for removal of noxious weeds and implementing suggestions made by the INHS as a result of their monitoring. IDOT expects to retain ownership and management of this site due to its relatively small acreage. Maintenance access will be provided off the levee at the south end.

Post Construction Remediation

IDOT will remediate for nonattainment of the goals of the compensation site. This will include correcting the hydrologic conditions, if it appears that the design is not functioning and replanting trees at the end of the monitoring period to meet a survival rate of 75%; and reseeding if necessary.

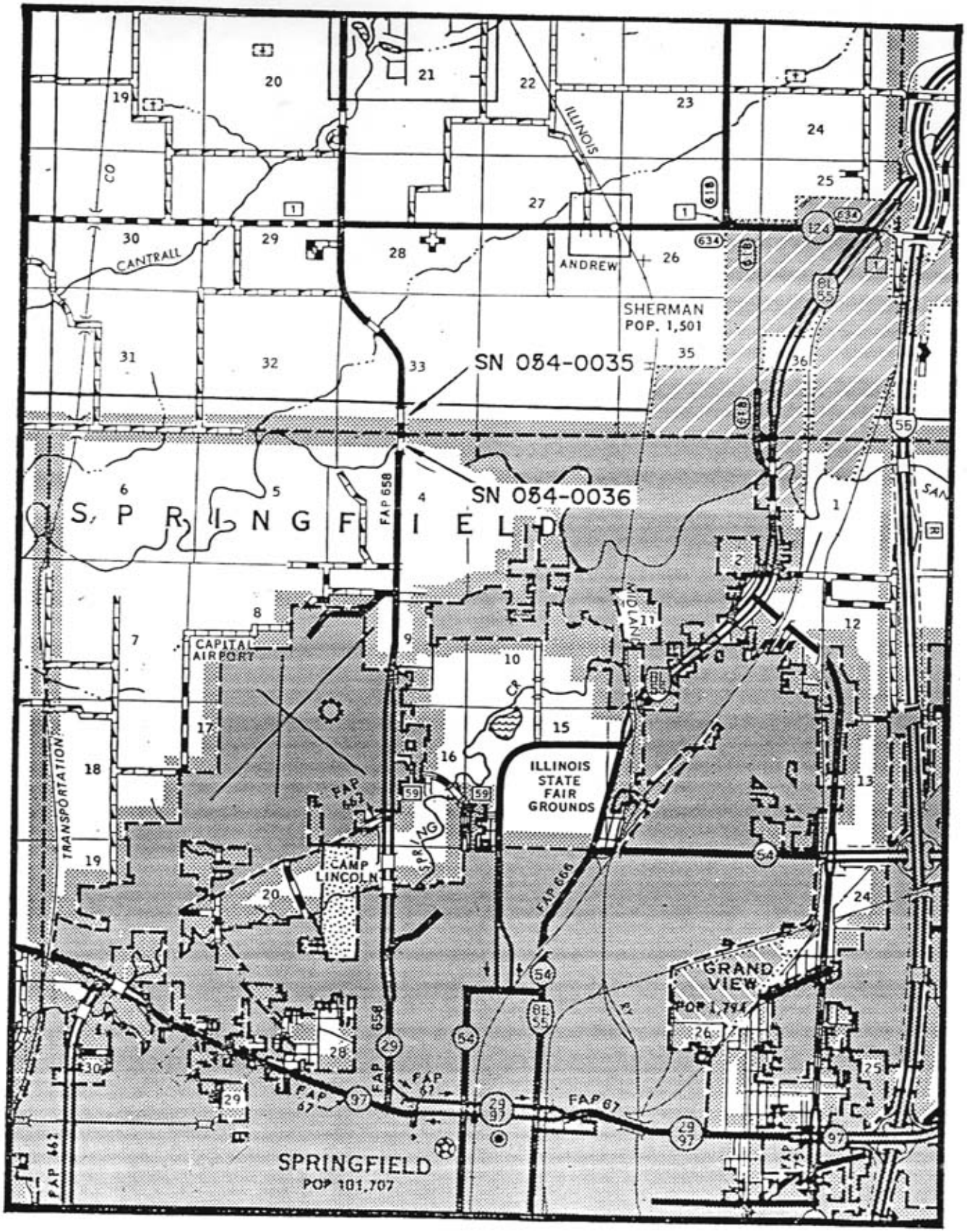
JBF

Table 1 — SEEDING MIXTURES

CLASS — TYPE		SEEDS	KG/HECTARE(LBS./ACRE)
1	Lawn Mixture	Ky Bluegrass	55 (50)
		Perennial Ryegrass	35 (30)
		Creeping Red Fescue	25 (20)
1A	Salt Tolerant Lawn Mixture	Bluegrass	35 (30)
		Perennial Ryegrass	10 (10)
		Dawsons Red Fescue	10 (10)
		Scaldis Hard Fescue	10 (10)
		Fults Salt Grass*	35 (30)
1B	Low Maintenance Lawn Mixture	Fine Leaf Turf—Type Fescue 3/	90 (80)
		Perennial Ryegrass	10 (10)
		Creeping Red Fescue	25 (20)
2	Roadside Mixture	Alta Fescue	55 (50)
		Perennial Ryegrass	35 (30)
		Creeping Red Fescue	25 (20)
		Oats, Spring	55 (48)
2A	Salt Tolerant Roadside Mixture	Alta Fescue	35 (30)
		Perennial Ryegrass	10 (10)
		Dawsons Red Fescue	10 (10)
		Scaldis Hard Fescue	10 (10)
		Fults Salt Grass 1/	35 (30)
3	Slope Mixture	Alta Fescue	45 (40)
		Perennial Ryegrass	25 (20)
		Alsike Clover 2/	5 (5)
		Birdsfoot Trefoil 2/	10 (10)
		Andropogon Scoparius (Little Bluestem)	5 (5)
		Bouteloua Curtipendula (Side—Oats Grama)	10 (10)
		Fult Salt Grass 7/	35 (30)
		Oats, Spring	55 (50)
4	Native Grass	Andropogon gernadi (Big Blue Stem)	4 (4)
		Andropogon scoparius (Little Blue Stem)	5 (5)
		Boutelova curtipendula (Side—Oats Grama)	5 (5)
		Elymus canadensis (Wild Rye)	1 (1)
		Panicum virgatum (Switch Grass)	1 (1)
		Sorghastrum nutons (Indian Grass)	2 (2)
		Annual Ryegrass	30 (25)
		Oats, Spring	30 (25)
		Perennial Ryegrass	15 (15)

CLASS — TYPE		SEEDS	KG/HECTARE(LBS./ACRE)
4A	Low Profile Native Grass	Andropogon scoparius (Little Blue Stem)	5 (5)
		Boutelova curtipendula (Side—Oats Grama)	5 (5)
		Elymus canadensis (Wild Rye)	1 (1)
		Sporobolus heterolepsis (Prairie Dropseed)	0.5 (0.5)
		Annual Ryegrass	30 (25)
		Oats, Spring	30 (25)
		Perennial Ryegrass	15 (15)
4B	Wetland Grass and Sedge Mixture	Annual Ryegrass	30 (25)
		Oats, Spring	30 (25)
		Wetland Grasses (Below)	6 (6)

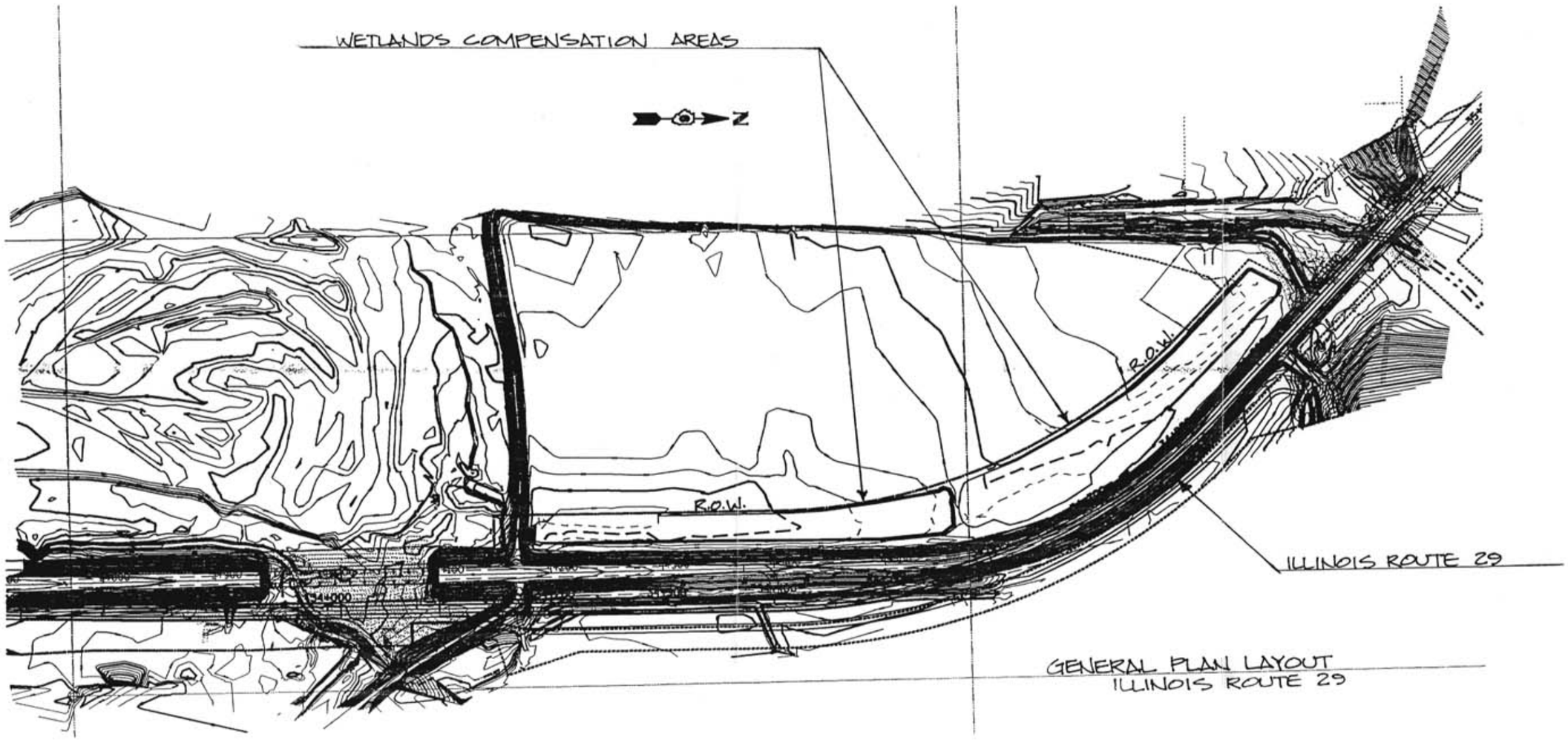
Species	% By Weight 5/
Calamagrostis canadensis (Blue Joint Grass)	2
Carex lacustris (Lake—Bank Sedge)	6
Carex slipata (Awl—Fruited Sedge)	6
Carex stricta (Tussock Sedge)	6
Carex vulpinoidea (Fox Sedge)	6
Eleocharis aciculoris (Needle Spike Rush)	2
Elecocharis obtusa (Blunt Spike Rush)	2
Elymus canadensis (Wild Rye)	15
Glyceria striata (Fowl Manna Grass)	14
Juncus effusus (Common Rush)	6
Juncus tenuis (Slender Rush)	6
Juncus torreyi (Torrey's Rush)	6
Leersia oryzoides (Rice Cut Grass)	10
Panicum virgatum (Switch Grass)	5
Scirpus acutus (Hard—Stemmed Bulrush)	2
Scirpus atrovirens (Dark Green Rush)	2
Spartina pectinata (Cord grass)	4



LOCATION MAP
IL 29 FAP 658
SEC 102 (B-3, B-4)
FROM 3.6 TO 3.8 MILES
N. OF SPRINGFIELD
SN 084-0036 & 084-003
SANGAMON COUNTY

F.A. - RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
658	*	SANGAMON		
STA.		TO STA.		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

*1020X,BR,B-3,B-4,B-5)



GENERAL PLAN LAYOUT
ILLINOIS ROUTE 29

ILLINOIS DEPARTMENT OF TRANSPORTATION

WETLAND COMPENSATION

DRAWN BY

DATE CHECKED BY

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Fri May 10 09:53:43 1996

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
658	*	SANGAMON		
STA.		TO STA.		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

*1021X,BR,B-3,B-4,B-51

PROPOSED CONTOURS SHOWN AS SOLID LINES. CONTOURS TO BE CHANGED SHOWN AS DASHED LINES.

VEGETATION NOT SHOWN TO SCALE OR PRECISE SPACING

TREES

GRASSES & SEDGES

N

PROP. R.O.W.

MATCH LINE STA 34+375.000

WETLANDS

WETLANDS

34+050

34+100

34+150

34+200

34+250

34+300

34+350

4+200

4+300

ILLINOIS DEPARTMENT OF TRANSPORTATION

WETLAND COMPENSATION

SHEET 1 OF 3

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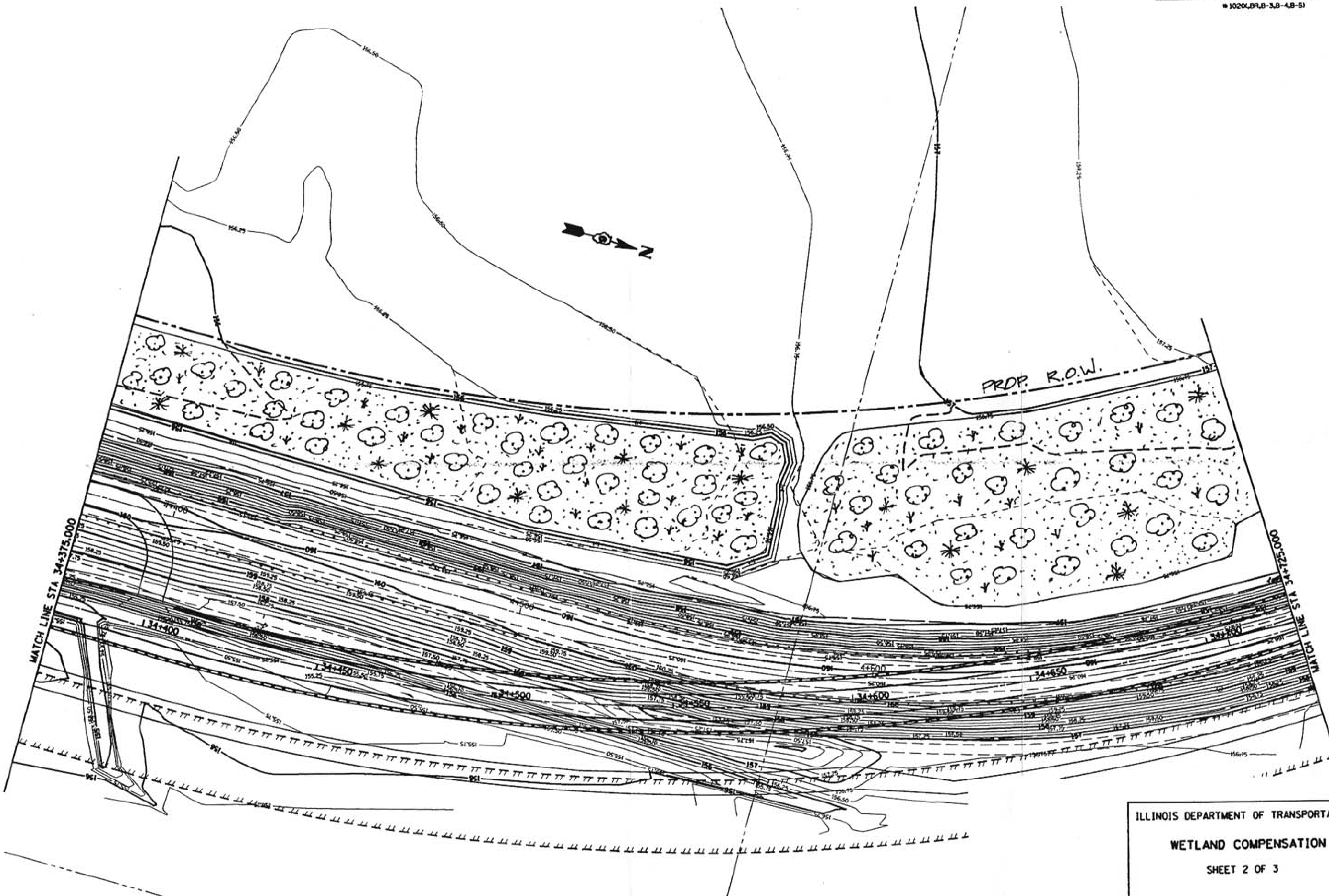
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
658	*	SANGAMON		
STA.		TO STA.		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

*1020(X,BR,B-3,B-4,B-5)



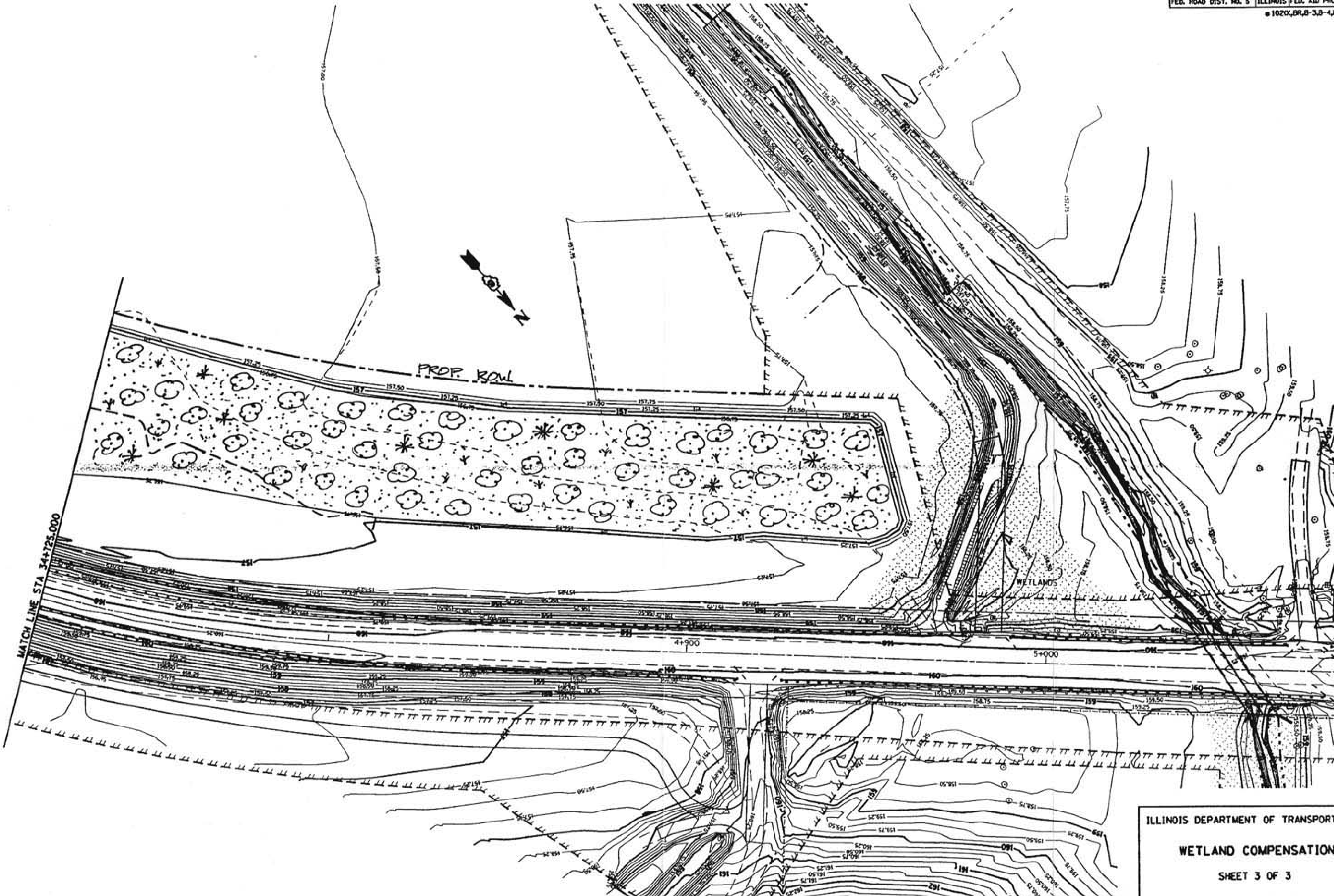
ILLINOIS DEPARTMENT OF TRANSPORTATION

WETLAND COMPENSATION

SHEET 2 OF 3

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
658	●	SANGAMON		
STA.		TO STA.		
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT	

●1020(X,BR,B-3,B-4,B-5)



ILLINOIS DEPARTMENT OF TRANSPORTATION

WETLAND COMPENSATION

SHEET 3 OF 3

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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
658	-	SANGAMON		
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

102(X,BR,B-3,B-4,B-5)

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE